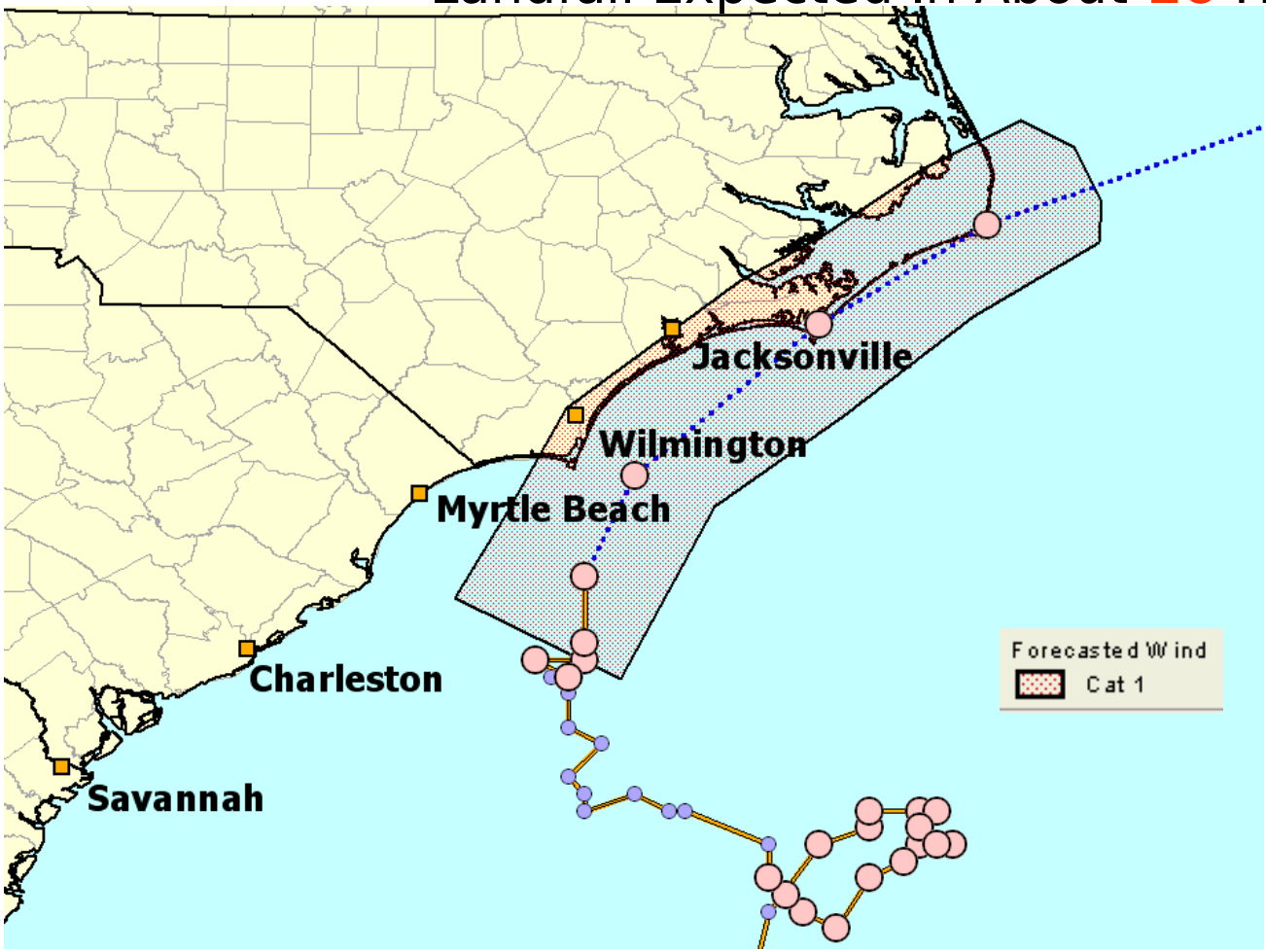
Hurricane Ophelia Wind Distribution

Landfall Expected In About **16** Hours

For Official Use Only!



Most Probable Landfall Wind Distribution

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Wind Fields

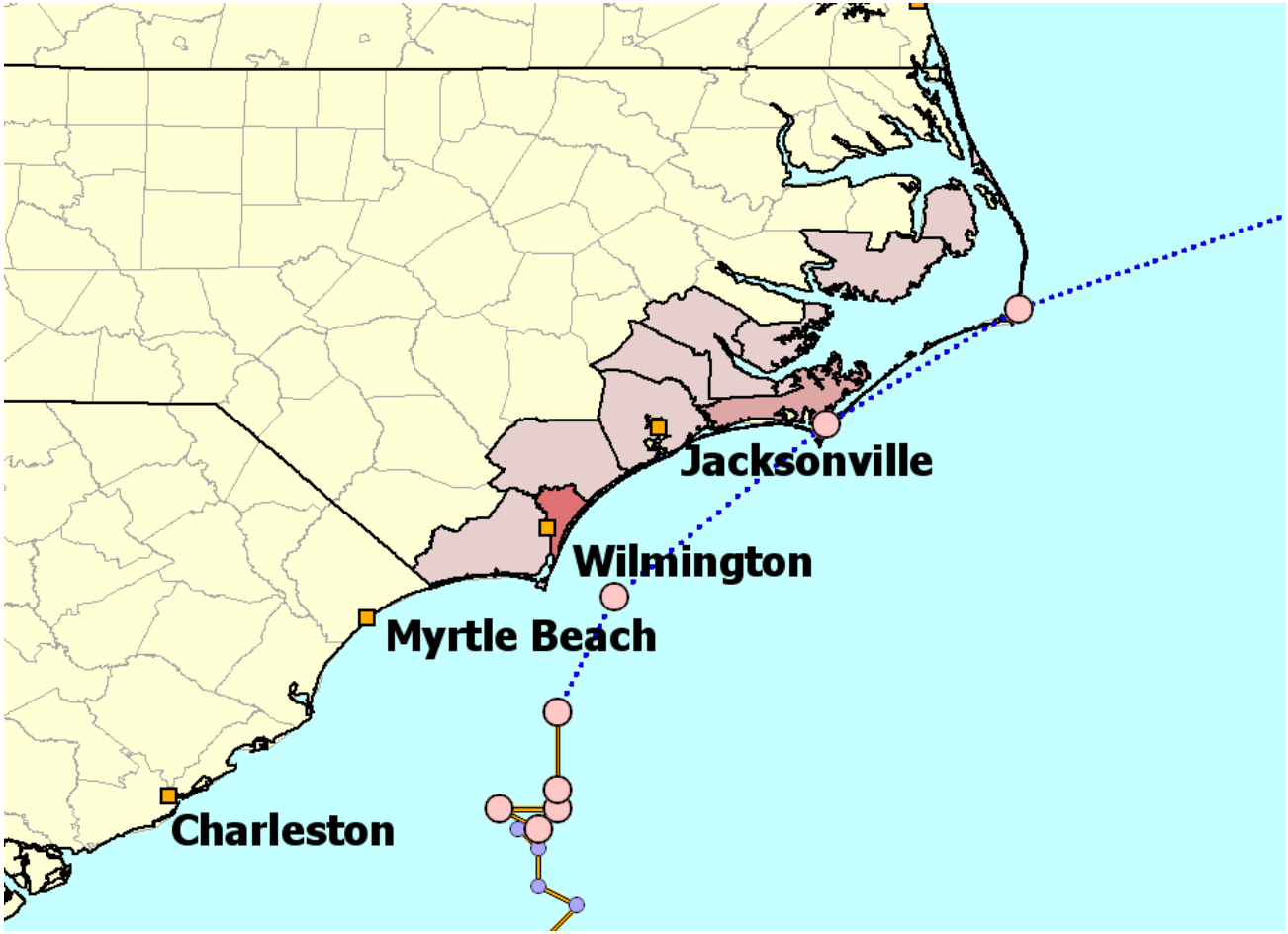
Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Debris Model

Landfall Expected In About **16** Hours

For Official Use Only!



Most Probable Landfall Debris Model Results

North Carolina – 587,000 yd^3

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

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US Army Corps of Engineers

Hurricane Ophelia Debris Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Debris Model

Landfall Expected In About **16** Hours

For Official Use Only!

State	County	Cubic Yards per County
North Carolina		
	Brunswick	35,000
	Carteret	118,000
	Craven	40,000
	Dare	3,000
	Hyde	2,000
	Jones	1,000
	New Hanover	326,000
	Onslow	41,000
	Pamlico	8,000
	Pender	13,000
TOTAL		587,000

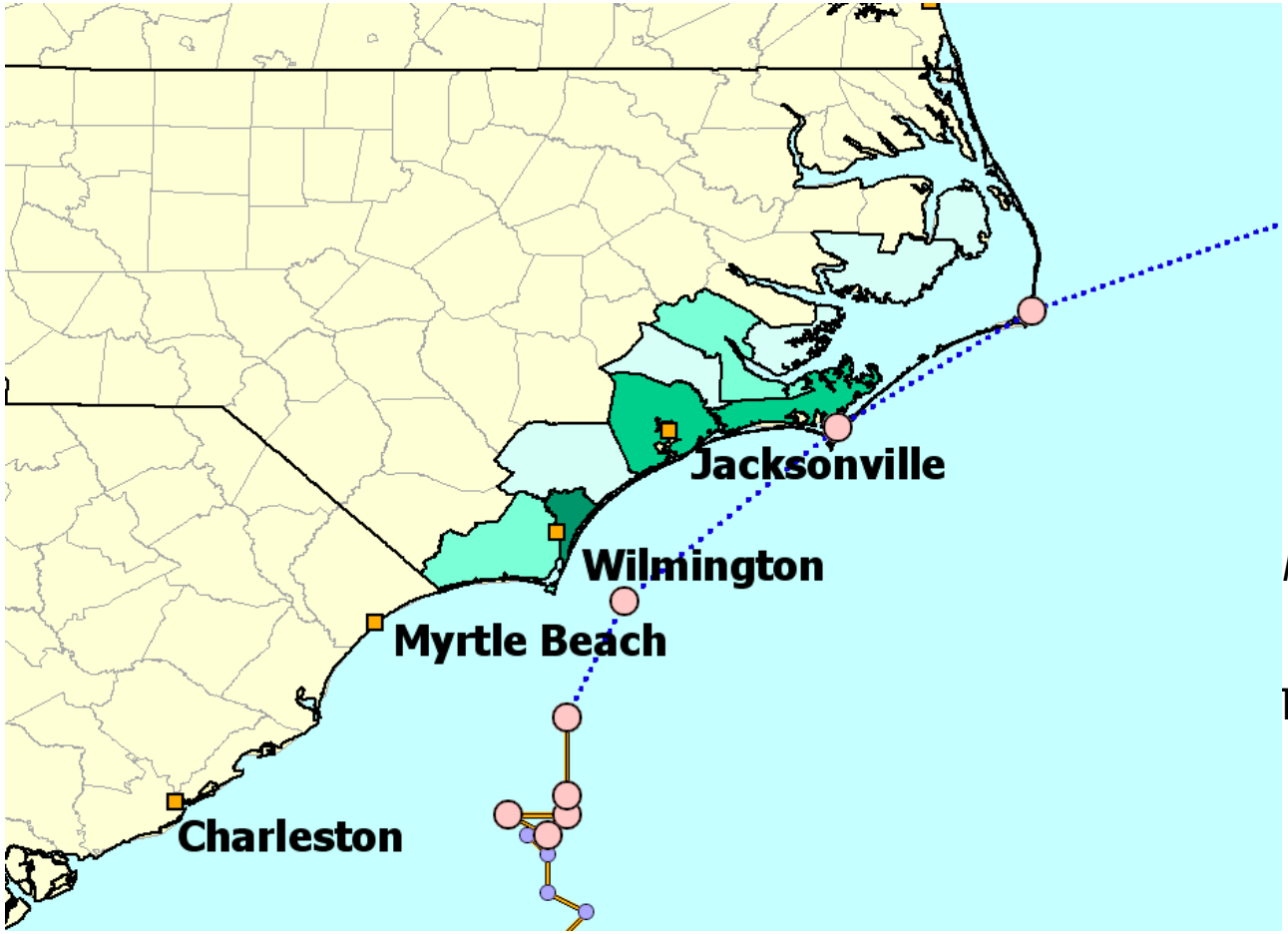
The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Ophelia Ice Model

Landfall Expected In About **16** Hours

For Official Use Only!



Most Probable Landfall Ice Model Results

North Carolina –
6 Truckloads Day One
12 Truckloads Day Two
24 Truckloads Day Three

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast. The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per day per person) and Ice SME input and represents a first day daily need.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers	**Hurricane Ophelia Ice Model**
Generated By: Terry Siemsen, LRL 0700 EDT 09/14/2005	
Sources: HURREVAC LRL-DEBRIS	Page 4 of 15

Hurricane Ophelia Ice Model

Landfall Expected In About **16** Hours

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Ice/Water Commodities - Trucks/Distribution Lanes Ramp-up
(Number of Trucks Each Commodity and Lanes Anticipated - end of each day)

	Day One (25%)*	Day Two (50%)*	Day Three (100%)*	Commodity Trucks Day 1-3 Total	Within Hurricane Force Winds Population	Households
Morehead City Track						
North Carolina	6	12	24	42	300,000	121,000
Total	**6**	**12**	**24**	**42**	**300,000**	**121,000**

Key assumption is that establishment of distribution lanes will be the limiting factor.

* Assumption is that States/locals (FL is the * exception) will have the capability to establish about 25% of needed distribution lanes in the first 24 hours post-landfall, about 50% of needed distribution lanes in the first 48 hours after landfall, and all needed lanes by 72 hours post landfall. Florida, due to past experience, estimates they can establish up to 50 distribution lanes per day.

Ophelia CAT1 16 hour assumption - 40% of the population within hurricane force winds will require water and/or ice

The amount of ice forecasted is based on Mission Guide Book requirements (8 pounds per person) and Ice SME input and represents a first day daily need. The assumption in this scenario is that 40% of the resident population affected by Ophelia will have power outage in this area will cause a need for ice.

Details about this model may be obtained at
https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Ice Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Water Model

Landfall Expected In About **16** Hours

For Official Use Only!

Most Probable Landfall Water Model Results

North Carolina –
6 Truckloads Day One
12 Truckloads Day Two
24 Truckloads Day Three

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast. The amount of water forecasted is based on Mission Guide Book requirements (3 liters per person per day) and Water SME input and represents a first day daily need.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Water Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Water Model

Landfall Expected In About **16** Hours

For Official Use Only!

	Ice/Water Commodities - Trucks/Distribution Lanes Ramp-up (Number of Trucks Each Commodity and Lanes Anticipated - end of each day)					
				Commodity Trucks	Within Hurricane Force Winds	
	Day One (25%)*	Day Two (50%)*	Day Three (100%)*	Day 1-3 Total	Population	Households
Morehead City Track						
North Carolina	6	12	24	42	300,000	121,000
Total	**6**	**12**	**24**	**42**	**300,000**	**121,000**

Key assumption is that establishment of distribution lanes will be the limiting factor.

* Assumption is that States/locals (FL is the * exception) will have the capability to establish about 25% of needed distribution lanes in the first 24 hours post-landfall, about 50% of needed distribution lanes in the first 48 hours after landfall, and all needed lanes by 72 hours post landfall. Florida, due to past experience, estimates they can establish up to 50 distribution lanes per day.

Ophelia CAT1 16 hour assumption - 40% of the population within hurricane force winds will require water and/or ice

The amount of water forecasted is based on Mission Guide Book requirements (3 liters per person) and Water SME input and represents a first day daily need. The assumption in this scenario is that 40% of the resident population affected by Ophelia will have power outage in this area will cause a need for water.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Water Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Population Model

Landfall Expected In About **16** Hours

For Official Use Only!

Most Probable Landfall Population Model Results

North Carolina – 300,000 persons

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast. The number of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Population Model

Generated By: Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources: HURREVAC LRL-DEBRIS

Hurricane Ophelia Population Model

Landfall Expected In About **16** Hours

For Official Use Only!

State	County	Population per County
North Carolina		
	Brunswick	17,000
	Carteret	59,000
	Craven	28,000
	Dare	1,000
	Hyde	1,000
	Jones	1,000
	New Hanover	146,000
	Onslow	36,000
	Pamlico	4,000
	Pender	7,000
TOTAL		300,000

The number of persons estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Ophelia Households Model

Landfall Expected In About **16** Hours

For Official Use Only!

Most Probable Landfall Households Model Results

North Carolina – 121,000 households

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

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Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Households Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Households Model

Landfall Expected In About **16** Hours

For Official Use Only!

State	County	Households per County
North Carolina		
	Brunswick	7,000
	Carteret	25,000
	Craven	9,000
	Dare	1,000
	Hyde	1,000
	Jones	1,000
	New Hanover	63,000
	Onslow	9,000
	Pamlico	2,000
	Pender	3,000
TOTAL		121,000

The number of households estimated to be within hurricane force winds comes from Census 2000 values.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Ophelia Temporary Roofing Model Results

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Most Probable Landfall Temporary Roofing Model Results

North Carolina – 2,800

Model results per county on following page

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast. The amount of temporary roofing that may be required is based on 2% of housing units damaged in CAT 1 wind area. This only indicates possible need – not necessarily a mission to repair roofs.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Roofing Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Temporary Roofing Model Results

For Official Use Only!

Landfall Expected In About **16** Hours

State	County	Houseunits per County
North Carolina		
	Brunswick	100
	Carteret	500
	Craven	200
	Dare	100
	Hyde	100
	Jones	100
	New Hanover	1,300
	Onslow	200
	Pamlico	100
	Pender	100
TOTAL		2,800

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary roofing that may be required is based on 2% of housing units damaged in CAT 1 wind area. This only indicates possible need – not necessarily a mission to repair roofs.

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US Army Corps of Engineers

Hurricane Ophelia Roofing Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Temporary Housing Model Results

Landfall Expected In About **16** Hours

For Official Use Only!

Most Probable Landfall Temporary Housing Model Results

North Carolina – 000

Model results per county on following page

There is no expected temporary housing need

This model is based on a Category 1 storm making landfall in near proximity to Morehead City, NC.

Information provided on this page displays a Category 1 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(0500 EDT 09/14/2005)*** forecast. The amount of temporary housing that may be required is based on no housing need in CAT 1 wind area.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Housing Model

Generated By:
Terry Siemsen, LRL 0700 EDT 09/14/2005

Sources:
HURREVAC
LRL-DEBRIS

Hurricane Ophelia Temporary Housing Model Results

Landfall Expected In About **16** Hours

For Official Use Only!

There is no expected temporary housing need

THIS IS AN EXPERIMENTAL MODEL !! THE VALUES ARE PRELIMINARY AND SHOULD BE CONSIDERED A GUIDE BUT NOT AN ABSOLUTE VALUE !!

The amount of temporary housing that may be required is based on no housing need in CAT 1 wind areas.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Ophelia Housing Model

Generated By:
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Sources:
HURREVAC
LRL-DEBRIS